



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

MF

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/710,941 11/13/00 ARCURI

R C-480

SIDNEY PERSLEY ESQUIRE
SUN CHEMICAL CORPORATION
222 BRIDGE PLAZA SOUTH
FORT LEE NJ 07024

IM52/1001

EXAMINER

GORR, R

ART UNIT

PAPER NUMBER

1711

DATE MAILED:

10/01/01

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/710,941	Applicant(s) ARCURIO ET AL.	
	Examiner Rachel Gorr	Art Unit 1711	

-- Th MAILING DATE of this communication appears on th cov r she t with th correspondenc addr ss --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 50-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. | 6) <input type="checkbox"/> Other: |

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-49, drawn to a polyurethane/urea, classified in class 528, subclass 61.
- II. Claims 50-54, drawn to a process for preparing a polyurethane/urea, classified in class 524, subclass 874.

2. The inventions are distinct, each from the other because:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made from a process in which the diamine is added to the prepolymer.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with S. Persley on 9-18-01 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-49. Affirmation of this election must be made by applicant in replying to this Office action. Claims 50-54 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

Art Unit: 1711

or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. Claims 5, 18 and 19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claim 5 fails to further limit claim 1. In order to make an NCOI terminated prepolymer, the NCO/OH ratio would have to be greater than 1/1, and claim 1 already claims the limitation that the NCO/OH ratio is less than two.

Claims 18 and 19 are directed to polycaprolactone polymeric diols, but claim 17 is limited to polyether diols.

Claims 3, 6 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly the subject matter which applicant regards as the invention.

Claim 3 isn't understood. It isn't clear how the resin could have the same value for the nitrogen content derived from the unreacted NCO groups as the NCO content of the prepolymer.

Claim 6 is vague because the applicants haven't defined the molecular weight. Do they intend number average molecular weight or weight average molecular weight?

In claim 26, the R_3 and R_4 values appear to be reversed. This problem also occurs at the bottom of page 7 of the disclosure.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-6, 8-10, 13, 15, 20, 21, 24-30 and 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita.

Yamashita discloses, in example 1, a polyurethane/urea made from a prepolymer of a polymeric diol having a molecular weight of 2000, a diol having a molecular weight of 213, and isophorone diisocyanate at an NCO/OH ratio of less than 2. The polymeric diol comprises 67% of the equivalents of the diol component. The prepolymer has an NCO content of 1.64 wt. %. The chain extends with about 80 equivalent % of isophorone diamine. At the top of page 17, he teaches the amounts of resin, solvent and pigment for an ink composition made from the polyurethane/urea. He discloses using this ink on polypropylene and polyester substrates on page 16. Because the resin and the inks of Yamashita have the same compositions, the viscosity values would be inherent.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7, 11, 12, 14, 16-19 22, 23, 31-35 and 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita.

11. Yamashita discloses the invention of the claims (see above rejection). His example 1 differs from the claims by not showing a mixture of diisocyanates, by not using polycaprolactone diol as the polymeric diol, by not using butane diol, by not using an acetate solvent, by not using nitrocellulose dispersant and by not specifically showing a laminate.

12. Yamashita teaches that polyisocyanate mixtures can be used (page 11 of translation), and, on page 9, he discloses polycaprolactone diols as the polymeric diols. On page 7, he discloses including diols, such as butane diol, in the prepolymer, and, on page 14, he discloses acetate solvents. On page 15, middle paragraph, he teaches that nitrocellulose can be included in the ink composition. On page 31, he teaches that the ink can be used in laminates.

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the composition of example 1 by using mixtures of diisocyanates, polycaprolactone, butane diol, acetate solvents and nitrocellulose because Yamashita teaches that these can all function equivalently to the components of example 1. It would have been obvious to use the lamination process of the claims because these are well known methods for laminating a printed substrate.

14. Claims 1, 5, 6, 8-10, 15, 20, 21, 24, 28-30 and 36-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruo of WO98/40438, which is equivalent to US 6,245,695.

Art Unit: 1711

In synthesis example I-2 of col. 9 of US patent, Maruo discloses polyurethane/urea resins made from prepolymers of isophorone diisocyanate and a glycol having a molecular weight slightly less than 2000. The prepolymer has an NCO content of 3.2%, and is made at an NCO/OH ratio of less than 2, and is reacted with about 100 % equivalents of isophorone diamine. The number average molecular weight of the resin is 56,880. He teaches using this resin as an ink (col. 8, line 50) in a solvent and pigment composition (col. 8, line 52). The compositions of Table II-2 show the same amounts of solvent, resin and colorant as the claims.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel Gorr whose telephone number is (703) 308-3608. The examiner can normally be reached on Mon.-Fri., from 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


RACHEL GORR
PRIMARY EXAMINER